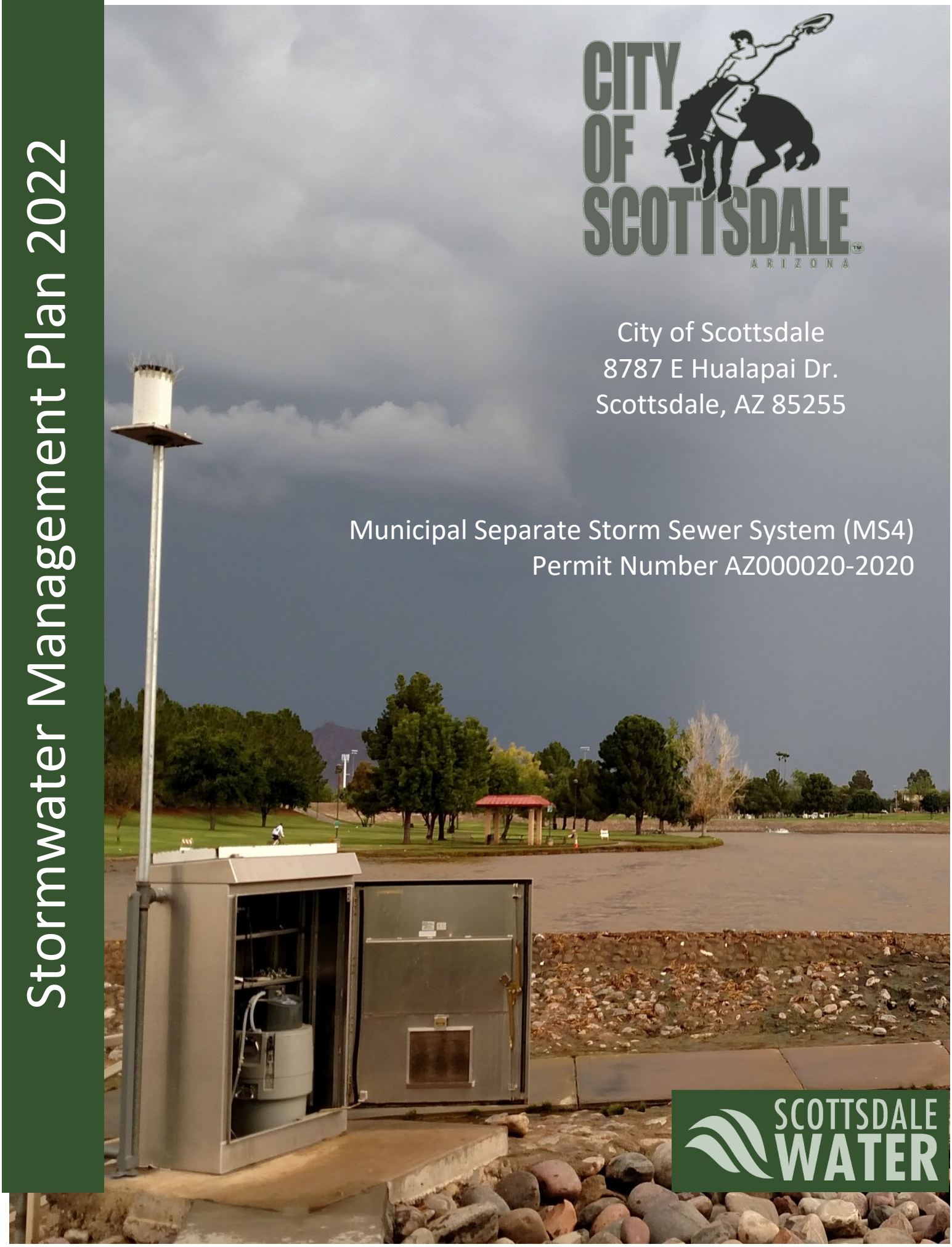
# Stormwater Management Plan 2022



CITY OF SCOTTSDALE
ARIZONA

City of Scottsdale
8787 E Hualapai Dr.
Scottsdale, AZ 85255

Municipal Separate Storm Sewer System (MS4)
Permit Number AZ000020-2020

SCOTTSDALE WATER

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# 1.0 Executive Summary

This Stormwater Management Plan (SWMP) has been prepared by the City of Scottsdale (city) as required by the Arizona Department of Environmental Quality's (ADEQ) Arizona Pollutant Discharge Elimination System (AZPDES) Permit No. AZS000020-2020 (Permit). The Permit was issued by ADEQ with an effective date of July 1, 2021 and expires on June 30, 2026.

The SWMP is a comprehensive document that describes the policies and procedures the City implements to reduce, to the maximum extent practicable, pollutant discharges to and from the municipal separate storm sewer system (MS4). The overall goal of the program is to reduce the impacts of urban runoff to stormwater and to protect receiving water bodies from the negative impacts of pollution. To achieve this goal, the SWMP addresses these major program areas: Public Education and Outreach, Public Involvement and Participation, Illicit Discharge Detection and Elimination, Municipal Facilities, Private Industrial and Commercial Facilities, Construction Sites, Post-Construction Controls, and Wet Weather Monitoring. It addresses the city's approach to pollution prevention by describing a wide range of control measures that will continue to be implemented during the five-year Permit term while ensuring compliance with the Permit is achieved.

This SWMP is the primary document describing the city's programs and procedures for meeting the ADEQ AZPDES Permit requirements.In addition to the program descriptions contained within this SWMP, city divisions with stormwater oversight responsibilities document their own internal procedures for implementation of program elements described herein. Examples of such internal documentation include:

- Drainage system maintenance schedule
- Construction site inspection program, database, and inspection forms
- Industrial/commercial inspection program, database and inspection forms
- Wet weather monitoring forms and DMR reporting procedures
- Illicit Discharge Detection and Elimination (IDDE) observation forms

These documents/programs are updated as needed to stay in compliance with the city's stormwater ordinance as well as local, state, and federal regulations.

The SWMP complies with the requirements specified in Code of Federal Regulations Chapter 40 Part 122.26(d)(2)(iv), incorporated by reference in Arizona Administrative Code R18-9-A905. The SWMP has been prepared to meet the requirements identified.

# 2.0 Legal Authority

The city continues to maintain and enforce legal authority to control pollutant discharges to the MS4 through ordinance, statute, permit, contract of similar means. Scottsdale Revised Code

Chapter 37 Stormwater and Floodplain Management describes, among other things, the city's regulatory mechanisms for controlling the discharge of pollutants to the MS4.

## 2.1 Review Legal Authority

By the end of Permit Year 2 (June 30, 2023), the city shall review, revise and/or adopt relevant rules, memorandums of agreement or other regulatory mechanisms, to the extent allowable under state law, and meet the requirements of the Permit.

## 2.2 Maintain Adequate Legal Authority

Legal authority must, at a minimum, authorize or enable the city to:

- Control through ordinance, permit, contract, order or similar means, the contribution of pollutants to the MS4 by stormwater discharges associated with industrial activity and the quality of stormwater discharged from sites of industrial activity
- Control through ordinance, permit, contract, order, or similar means, the contribution of pollutants to the MS4 by stormwater discharges associated with construction activity and the quality of stormwater discharged from sites of construction activity
- Prohibit through ordinance, order, or similar means, illicit discharges to the MS4
- Control discharges to the MS4 of spills, dumping, or disposal of materials other than stormwater
- Require compliance with conditions in ordinances, permits, contracts or orders
- Carry out all inspection, surveillance and monitoring procedures necessary to determine compliance with permit conditions including the prohibition on illicit discharges to the MS4
- Establish requirements for post-construction stormwater controls.

# 3.0 Arizona Surface Water Quality Standards (SWQs)

## 3.1 Protection of Water Quality from MS4 Discharges

A. Scottsdale shall protect water quality by reducing the discharge of pollutants, to the maximum extent practicable (MEP), that cause or contribute to an exceedance of any applicable surface water quality standard (SWQS) that was established at the time the permit becomes effective including the narrative standards that are applicable to any waters included in the Arizona Surface Water Protection Program (SWPP) receiving discharges from the MS4. Arizona's SWPP includes waters regulated under the Clean Water Act (CWA), which are defined as waters of the U.S. (WOTUS), and the Protected Surface Waters List (PSWL). To do so, the Permittee shall fully implement the Stormwater Management Program (SWMP), any subsequent revisions, and all requirements of this permit.

B. It is Water Quality's responsibility to analyze stormwater monitoring data at the identified monitoring locations within the MS4 representative of stormwater pollution from the MS4, as

required in Section 5.0 (Monitoring Requirements). A Discharge Monitoring Report (DMR) with the stormwater monitoring data that compares to the applicable SWQS at the respective outfall or monitoring location to the PSWL must be submitted for every sample collected at the designated monitoring locations. An exceedance of a SWQS is not considered a violation of this permit as long as the city is implementing applicable control measures to reduce the discharge of pollutants to the MEP in the drainage area(s) where such exceedances have occurred.

C. Water Quality shall evaluate the effectiveness of existing control measures on the pollutant(s) of concern for the applicable drainage area and modify existing control measures or implement additional control measures, as necessary, to reduce the discharge of pollutants to the MEP.
D. If, despite full implementation of the SWMP and other requirements of the Permit to reduce the discharge of pollutants, the city determines that a discharge at an outfall or monitoring location contains a pollutant above a SWQS, then Water Quality shall report this information in the annual report. The information in the annual report shall include, at a minimum, the information specified in Section 6.0 (Reporting Requirements) of the Permit.

## 3.2 SWQS Exceedances Notification and Planning

A. Outside of wet weather sample reporting (see section 6.1 Discharge Monitoring Report), if credible, site-specific information that a discharge from the MS4 is causing or contributing to a SWQS exceedance, Water Quality shall notify ADEQ within 30 calendar days of becoming aware of the exceedance.
B. If implementation of Permit requirements does not address the exceedance, and the exceedance is not a routine or ubiquitous stormwater pollutant, Water Quality will be responsible for proposing to ADEQ an action plan, including a schedule for implementation, and submit it to ADEQ within 60 calendar days of becoming aware of the SWQS exceedance. ADEQ shall provide a review and approval within 30 calendar days.
C. All notifications in this section must be submitted to ADEQ via AZPDES@azdeq.gov.
D. If a discharge containing pollutants above an applicable SWQS persists and Scottsdale has not modified existing control measures or implemented additional control measures to reduce the discharge of pollutants to the MEP, the Permit may be reopened and modified as provided in A.A.C. R18-9-B906 and 40 CFR 122.62.

## 3.3 Discharges from the MS4 to Outstanding Arizona Waters

An Outstanding Arizona Water (OAW) is a water listed on the Protected Surface Waters List (PSWL) that has been designated by ADEQ as an outstanding state resource water by the director under A.A.C. R18-11-112. Currently, no PSWL receiving discharges from the MS4 has been classified as an OAW. However, if a PSWL that has the potential to be impacted by city discharge is classified as an OAW, the SWMP will be revised to include additional conditions to protect the OAW.

## 3.4 Discharges from the MS4 to Impaired Waters

Section 303(d) of the CWA requires that states, territories, and authorized tribes develop lists of impaired waters in their jurisdiction and update those lists every other year. Water bodies included on the 303(d) list are considered impaired because they do not meet water quality standards for at least one designated use. The current (2018) Impaired Waters List for Arizona can be accessed from the following website: https://www.azdeq.gov/programs/water-quality-programs/surface-water-monitoring-and-assessment.

Chaparral Park Lake in the Middle Gila Watershed is located within the city and is listed as impaired for low dissolved oxygen and Escherichia coli (E. coli) in the 2018 Impaired Waters List. Scottsdale Water has been working with ADEQ's Surface Water Protection Unit to upload sampling data from its urban lakes that shows current conditions that support that it is no longer impaired. ADEQ is currently working to provisionally delist this waterbody from the 303(d) list. Data submitted recently will be considered in the 2024 Status of Water Quality in Arizona 305(b) Assessment.

Because of the impairment designation on ADEQ's current (2018) list, Scottsdale Water plans to perform additional monitoring at Chaparral Lake during wet weather sampling events. The additional monitoring is only for the 303(d) listed parameter (dissolved oxygen and E. coli) at a representative outfall that discharges to Chaparral Lake. An internal document providing sampling details has been developed and is maintained by Water Quality.

Urban lakes sampling data has been submitted to EPA's Water Quality Exchange (WQX) for consideration in the 2024 Status of Water Quality in Arizona 305(b) Assessment. Scottsdale expects that Chaparral Lake to be delisted for both E. coli and dissolved oxygen as the data supports. Once finalized, this section will be updated.

# 4.0 Minimum Control Measures/SWMP Implementation

## 4.1 Implementation

Overall responsibility for administering the Permit and SWMP rests with the Water Resources Division (Scottsdale Water). However, implementing the SWMP requires participation from multiple city departments.

Scottsdale Water prepares Annual Reports, maintains the SWMP, conducts stormwater monitoring, and coordinates activities of the other City divisions and subcontractors with responsibilities under the SWMP. Primary responsibility for managing AZPDES Permit compliance rests with the City's Stormwater Quality Coordinator. According to the Stormwater Ordinance (Scottsdale Revised Code Chapter 37, Article III), the City Manager has designated the Stormwater Quality Coordinator, or that person's successor or designee, to administer the City Code regarding stormwater quality protection. Currently the City Manager has assigned the duties of the Stormwater Quality Coordinator to the Water Quality Regulatory Manager.

Table 4-1 identifies the divisions and departments that have direct stormwater responsibilities.

### Table 4-1: Stormwater Responsibilities

| Division/Department | Stormwater Responsibilities |
|---|---|
| Scottsdale Water/Water Quality | Overall Permit Implementation<br>Public Education & Outreach<br>Public Involvement<br>IDDE<br>Industrial Inspections<br>Dry Weather Inspections<br>Wet Weather Monitoring<br>Enforcement<br>Training<br>Reporting |
| Public Works/Street Operations | Drainage System Maintenance<br>Roadway Maintenance<br>IDDE<br>Mapping |
| Public Works/Facilities & Fleet | Municipal Facilities P2, Good Housekeeping<br>IDDE |
| Public Works/Capital Projects Management | CPM Plan Review<br>Construction Inspections & Enforcement<br>Post-Construction Inspections & Enforcement |
| Community & Economic Development | Private Construction Plan Review<br>Construction Inspections & Enforcement<br>Post-Construction Inspections & Enforcement |
| Office of Environmental Initiatives | Spill Prevention/Management & Reporting |
| Communications/Citizen Service | Public Involvement<br>IDDE/ScottsdaleEZ |

## 4.2 Public Education and Outreach

This section describes ongoing and planned outreach activities to educate the community (developers, contractors, homeowners, public, etc.) on relevant stormwater topics. Public sector and business sector outreach strategies are outlined in the following sections.

A. The city targets one public sector group for outreach during each year of the permit term. Table 4-2 lists the planned outreach approach for the public sector during the five-year permit term.

### Table 4-2: Public Sector Outreach Plan

| Permit Year | Theme | Topic(s) |
|---|---|---|
| Fiscal 2022 | Stormwater Runoff | Residential BMPs, pet waste |

| | | |
|---|---|---|
| (July 2021-June 2022) | | |
| Fiscal 2023<br>(July 2022-June 2023) | Post-Construction Ordinances & IDDE | Long term maintenance of stormwater CMs |
| Fiscal 2024<br>(July 2023-June 2024) | Water Quality Impacts | BMPs for fertilizers, herbicides, pesticides, solid waste |
| Fiscal 2025<br>(July 2024-June 2025) | Proper Disposal | Proper pool draining, chemical handling/disposal |
| Fiscal 2026<br>(July 2025-June 2026) | IDDE Reporting | Reporting IDs through ScottsdaleEZ |

B. The city targets business sector separately, as stormwater concerns may be different in commercial or industrial areas than residential. Table 4-3 lists the city's business sector outreach plan for the duration of the permit.

### Table 4-3: Business Sector Outreach Plan

| Permit Year | Theme | Topic(s) |
|---|---|---|
| Fiscal 2022<br>(July 2021-June 2022) | Stormwater Runoff | Commercial inspections checklist, BMPs |
| Fiscal 2023<br>(July 2022-June 2023) | Post-Construction Ordinances & IDDE | BMP standards for stormwater storage, maintenance |
| Fiscal 2024<br>(July 2023-June 2024) | Water Quality Impacts | Proper management and disposal of materials |
| Fiscal 2025<br>(July 2024-June 2025) | Proper Disposal | Mobile businesses BMPs (carpet cleaners, food trucks, etc.) |
| Fiscal 2026<br>(July 2025-June 2026) | IDDE Reporting & Construction | Construction site management |

C. Scottsdale Water is responsible for measuring the effectiveness of its stormwater outreach campaign. Adjustments to the plan can be made as changes in pollutant concentrations and other environmental concerns are observed. At the end of the fourth year of the permit, the city will evaluate the adoption of the targeted behaviors for at least one target audience in at least one subject area. This evaluation will be used to determine a plan for future education and outreach efforts.

   a. A formal evaluation of targeted behaviors and effectiveness of the outreach strategy shall be submitted to ADEQ as a supplement to the city's fourth year annual report.

## 4.3 Public Involvement and Participation

The city is committed to providing opportunities for the public to get involved with pollution prevention. Numerous events are held throughout a typical year, including roadway cleanups and household hazardous waste collection days.

A. Scottsdale Water hosts an annual public workshop to allow community members to provide input on the city's Stormwater Management Program (SWMP). Water Quality is responsible for the workshop's logistics and creating content (presentation, activities, etc.) for attendee engagement. Based on revolving needs of the city, workshop content can change year-to-year to provide a comprehensive understanding of the SWMP and minimum control measures.

B. The city provides several opportunities for the public to be involved with implementing stormwater controls. The Adopt-a-Road program is volunteer litter pick-up program run by the city in affiliation with the Keep America Beautiful/Keep Scottsdale Beautiful organizations. The program is coordinated by an employee from the Office of Communications and Citizen Service. Under Adopt-a-Road, volunteer groups select either a 1- or 2-mile road segment and commit to picking up litter at least three times per year for at least two years.

   As part of the Adopt-a-Road program, the city sponsors two city-wide cleanup events in April for Earth Day and October for Keep Scottsdale Beautiful day. Adopt-a-Road volunteer groups are encouraged to schedule two of their three cleanups to coincide with these events. Other citizen and neighborhood groups, as well as individuals, are also encouraged to participate in these annual events.

   Outreach for the Adopt-a-Road program and the City-wide cleanup days are accomplished through several routes:

   - Direct emails to Adopt-a-Road volunteers and other interested parties
   - Announcement on the Adopt-a-Road webpage: scottsdaleaz.gov and search adopt-a-road
   - Scottsdale Update emails that reach more than 10,000 residents

C. Residents are encouraged to use ScottsdaleEZ to report issues spanning all city Divisions. For stormwater, people can submit incidents of illicit discharges, pool discharges (a distinct category), any illegal dumping right from their smartphone or a computer. Stormwater-related service requests are routed directly to Water Quality staff immediately upon submittal, allowing for the quickest possible response. ScottsdaleEZ is available 24/7 and can be found at: https://www.scottsdaleaz.gov/search?query=ez.
   Alternatively, reports can be made by phone to Water Quality (480-312-8732) during normal business hours, or to the non-emergency police line (480-312-5000) outside of normal business hours.
   Scottsdale Water maintains the database of ScottsdaleEZ requests that are assigned to the Division. Requests are tracked by location, complainant, request type, date/time received, and date/time responded or resolved. For cases of illicit discharges, comments are inputted by city staff as they carry out their investigation.

D. The city's SWMP and current Annual Report are posted to the city's website here: https://www.scottsdaleaz.gov/stormwater. With the implementation of myDEQ for Annual Report data and Discharge Monitoring Reports (DMR) for wet weather monitoring, the city plans to utilize ADEQ's summary that is produced after data is inputted, reviewed, and submitted, to

post to the website. A separate, formal narrative of stormwater activities, as was written under the previous permit, will not be produced.

## 4.4 Illicit Discharge Detection and Elimination

The Stormwater Ordinance (Scottsdale Revised Code Chapter 37) describes that the purpose of the ordinance is to: 1) regulate activities that result in the contribution of pollutants into the MS4 and to comply with the city's MS4 permit; 2) prohibit ICs and IDs to the MS4; and 3) carry out inspection, monitoring, and other procedures necessary to comply with the ordinance.

A. Scottsdale Water has the overall responsibility to implement the Illicit Discharge Detection and Elimination (IDDE) program for the city. The program designed to eliminate illicit discharges (ID), illicit connections (IC) and improper disposal (dumping) of non-stormwater discharges to the MS4. An ID is any discharge to a MS4 that is not composed entirely of stormwater, except discharges pursuant to a NPDES or AZPDES permit outlined in Section 4.4(B) of this document. An IC is any man-made conveyance connecting an ID directly to a municipal separate storm sewer. The IDDE program includes compliance, education, training, and enforcement measures.

1. Several city Divisions play a role in implementing the IDDE Program, including Code Enforcement, Stormwater Management, Parks and Recreation Maintenance, Fire, Police, Street Operations and Scottsdale Water. Personnel from these areas have the potential to discover IDs or ICs in the MS4 during their regular daily activities. When a potential violation is discovered, staff are trained to submit a report of their observations using ScottsdaleEZ. The request is routed directly to several staff members in Water Quality, which assures the quickest response time. Upon being notified of the potential ID or IC, Water Quality conducts an investigation to determine the cause of the ID or IC. Documenting the details of the discharge, and taking proper enforcement action, when necessary, is Water Quality's responsibility. The Fire Department responds to roadway accidents and when spills occur as a result of a collision, the Office of Environmental Initiatives (OEI) is notified to ensure proper cleanup of the area. Such instances are reported to Water Quality for inclusion in the Annual Report.

   The city's Stormwater Ordinance (Scottsdale Revised Code Chapter 37) describes, among other things, the responsibility for addressing spills that occur in the city. General steps include:

   1. Take immediate action to contain the spill
   2. Notify city personnel responsible for evaluating spill response, cleanup and agency reporting requirements
   3. Remediate the spill
   4. Coordinate spill root cause evaluation and subsequent corrective or punitive actions with the applicable governmental agency.

   The Stormwater Ordinance also includes a provision that allows certain city employees to take emergency action to avoid or mitigate spills and other occurrences where pollutants may significantly affect stormwater quality. The city is also entitled to recover its costs

associated with abatement of a violation, restoration of the property, and enforcement of any actions taken under the ordinance.

2. For discharges entering the city's MS4 through an interconnect, the same general procedures apply. Scottsdale's boundary is adjacent to the City of Phoenix, Town of Paradise Valley, and the Arizona Department of Transportation (ADOT) and its interconnects are understood by city staff. Communication between MS4s occurs regularly and in the event of an illicit discharge, immediate notification is made to the affected MS4.

B. Allowable Non-Stormwater Discharges

Provided they are not significant sources of pollutants to WOTUS or PSWL, the following non-stormwater discharges are not prohibited by the city when conducted in accordance with 40 CFR 122.26(d)(2)(iv)(B)(1) and Scottsdale Revised Code:

- Waterline flushing
- Landscape irrigation
- Diverted stream flows
- Rising groundwater
- Uncontaminated groundwater infiltration to separate storm sewers
- Uncontaminated pumped groundwater
- Discharges from potable water sources
- Foundation Drains
- Residential air conditioning condensate
- Irrigation Water
- Springs
- Water from crawl space pumps
- Footing drains
- Lawn watering
- Individual residential car washing
- Flows from riparian habitat and wetlands
- Street wash water
- Discharges or flows from emergency firefighting activities
- Discharges authorized by another NPDES or AZPDES permit

The city does not allow discharge of pool water, chlorinated or dechlorinated, to the MS4. All pool backwash water must be retained within the owner's property or discharged to the sanitary sewer unless extreme circumstances dictate otherwise. The city also does not allow the discharge of air conditioning condensate, other than residential air conditioning condensate, to the MS4. Salt River Project (SRP) discharges agricultural return water to Indian Bend Wash (IBW) through certain outfalls. These discharges are not IDs and are therefore not tracked by Scottsdale Water.

C. Mapping

The city of Scottsdale is required to retain an inventory of known MS4 outfalls and related drainage basins contributing to each outfall as specified in Section 4.4(C) of the Permit. The initial inventory was completed during the last permit term and ongoing updates, or corrections are made as

needed. Identification of drainage basins that contribute to each outfall is scheduled to be completed by July 2022, with on-going inventory and field verification as needed.

D. Employee Training

Staff with direct stormwater responsibilities are trained to understand the IDDE program and their role to investigate, eliminate, and report instances of illicit discharges. Water Quality inspectors carryout investigations as they are received, typically through the ScottsdaleEZ system.

1. Within the first year of employment new staff receive an in-person training conducted by the Water Quality Supervisor. During a year when no new WQ staff are hired, that will be noted in the Annual Report.
2. Refresher training on the IDDE program is provided in-person by the Water Quality Supervisor for existing staff every other year.
3. The Stormwater General Awareness training is designed to provide basic knowledge to city employees without direct stormwater responsibilities. Generally, if a field position is not assigned a more specific stormwater training as described in other sections of the SMWP, they are given the General Awareness assignment. The city's intention is to ensure anyone with the potential to observe an illicit discharge knows the proper way to report it to Water Quality. This training module is computer based and managed in the city's online training site, Scottsdale University. New employees are assigned the Stormwater General Awareness training for IDDE within their first year of employment. For existing employees, training is assigned every other year.

E. Inspections and Screening

1. Water Quality is responsible for the city's IDDE program. Inspections and screening for non-stormwater discharges are conducted following Water Quality's internal SOPs: IDDE Investigations (DM# 13056179) and Dry Weather Screening Point Inspections (DM# 13056162).
2. At the time of SWMP development/update, Scottsdale does not have any priority major outfalls (MOs) or field screening points (FSPs). As priority assets are identified upon completion of annual inspections, the Water Quality Supervisor can add MOs or FSPs to the list for more frequent inspection.
3. The Permit requires the city to inspect approximately 20% of the remaining (i.e., non-priority) major outfalls and FSPs each year of the permit term, inspecting all MOs at least once within the five-year permit term. Scottsdale Water staff target all 26 MOs and 50 FSPs for inspection every year to ensure the overall health of the stormwater conveyance system.

   In addition to WQ staff, Street Operations employees visually inspect outfalls for needed maintenance. Parks and Recreation Maintenance employees also conduct maintenance throughout the Indian Bend Wash (IBW), where most of the city's MOs are located, and can observe potential stormwater issues and report them. Water Quality trains employees from

both workgroups to contact Water to initiate an investigation if they observe a potential stormwater violation while conducting their normal work.

F. Investigation Timelines
   1. Water Quality responds to reports of IDs or ICs on the same day the report is received, between the hours of 6:00am and 3:30pm. Reports received after 3:30pm are typically addressed the following morning, depending on where the issue is. Where an illicit discharge constitutes a threat to human health or the environment, the Fire Department, Police Department, and/or Office of Environmental Initiatives (OEI) takes the lead, with Water Quality offering input as requested.
   2. The Permit requires that at least 90% of reports of IDs or ICs be investigated within five (5) business days of being notified.

G. Elimination
   1. The MS4 Permit requires that the city initiate corrective action and/or enforcement mechanisms to eliminate any illicit discharge detected within 60 calendar days of identification of the source. However, sources that are fully investigated and determined to not cause or contribute to SWQS are not subject to these timeframes. In this event, Water Quality will document the investigation details, including sampling, and reasoning for determination that such discharges do not contain significant levels of pollutants.

H. Compliance Activities and Enforcement
   1. The MS4 Permit requires that the city implement and follow enforcement procedures that incorporate escalating actions for violations of municipal stormwater requirements, ordinance, or code identified during inspections. At least 80% of all cases shall be satisfactorily resolved by halting the ID within one (1) calendar year from the original enforcement action.

I. Recordkeeping
   1. Water Quality is responsible for maintaining records for the IDDE program. Using ScottsdaleEZ, staff documents the details of illicit discharges and connections, including pool discharges, enforcement actions taken, and the resolution. WQ inspectors follow the IDDE Investigations SOP (DM#13056179) and document their field observations on the IDDE form. Upon returning to the office, findings are entered into ScottsdaleEZ to allow for tracking of reports, observations, and follow-up/enforcement actions.
   2. Call takers are trained to record the date, time, location, and other observations made by the reporting party for illicit discharges. Throughout their investigation, WQ staff are trained to add comments to the request ticket. Documentation includes the type of discharge, beginning/end of response, responsible party (when identified), and any corrective actions taken. This

information can be extracted from ScottsdaleEZ at the end of the reporting period for inclusion in the annual report.

## 4.5 Municipal Facilities

A. Employee Training

Computer-based training courses are managed in the Scottsdale University system and are assigned based on job duties. For employees directly involved with maintaining city-owned facilities, or those employees who perform work at these sites, training is assigned as follows:

Spill Prevention/Spill Management training is assigned to staff in Fleet, Facilities, Parks Maintenance, and Water, where job duties include the proper methods of using, storing, transporting, or disposing of hazardous materials and wastes at city facilities.

Water & Sanitary Sewer Repair Practices training is assigned to the Collections and Distribution teams in Scottsdale Water. This course addresses appropriate practices to protect the MS4 after a water main or sewer main break.

B. Inventory

1. Facilities Management maintains a database of all city-owned facilities. Water Quality is responsible for reviewing the inventory and determining the inspection schedule and frequency. Most of the facilities on the inventory are unstaffed with little or no potential for stormwater exposure. The inventory includes libraries, community centers, parks, office buildings, fuel sites, Fleet Management Operations, water and wastewater sites, and maintenance yards.

   The inventory provided by Facilities is used by WQ as the starting point for creating a schedule for inspections. The WQ Supervisor is responsible for reviewing the inventory, setting inspection frequencies (based on inspection findings, exposure risk, etc.), and assigning inspections to each inspector.
2. Municipally owned facilities are prioritized for inspection based on these factors:
   a. Quantity, type, and location of materials used and/or stored at the facility
   b. Potential for exposure to stormwater
   c. Potential to discharge a substantial pollutant load to the MS4 or to a water of the U.S.

   Scottsdale has identified six municipal facilities for annual inspection, which are labeled as high-priority sites. These include the Water Campus Wastewater Treatment Plant (WWTP), Gainey Ranch WWTP, Cap Water Treatment Plant (WTP), Solid Waste Transfer Station, and the North and South Corporation Yards (NYC, SYC).

   Facilities that are owned by the city but are permitted under the MSGP or another AZPDES permit are not included on this inventory as inspections are included under their respective programs.

C. Inspections

Water Quality inspectors are responsible for completing inspections of 20% of the municipal facilities inventory on an annual basis. The six high-priority sites are inspected every year. The Water Quality Supervisor determines what sites will be inspected during each year.

D. Good Housekeeping Measures

The city has implemented practices and/or policies to reduce stormwater impacts associated with runoff from all lands owned and operated by the city. Such lands include, but are not limited to parking lots, streets, roads, buildings, parks, open space, road rights-of-way, maintenance yards, and stormwater flow control BMPs.

Street Operations is responsible for street and multi-use path sweeping as well as MS4 cleaning and maintenance. Sweeping is performed according to the frequencies in Table 4-3 Sweeping Schedule, below. Streets and bike paths are swept at least monthly, while major streets and high traffic areas are swept more frequently. Streets and multiuse paths are swept after rain events as needed to remove storm debris.

### Table 4-3: Sweeping Schedule

| Activity Performed | Frequency |
|---|---|
| **Street sweeping** | Residential, Commercial, & Industrial – once per month |
| | Major streets – twice per month |
| | Medians – once per month |
| | Downtown streets – twice per week |
| **Multi-use path sweeping** | Monthly |
| **Post-storm sweeping** | As needed |
| **Lot sweeping** | |

Sweeping priorities are reviewed and adjusted, if needed, on an annual basis. Street Operations maintains a database to track curb miles swept and man-hours dedicated to these efforts.

The city has adopted the Arizona Department of Transportation's (ADOT) Maintenance and Facilities Best Management Practices (BMP) Manual to reduce stormwater impacts associated with runoff from lands owned and operated by the city. The manual is used as a reference for field personnel to determine the proper erosion and pollution control BMPs to be used during roadway maintenance.

E. Recordkeeping

Records developed during the process of inspecting city owned facilities are retained by Water Quality. When the WQS returns to the office, inspection details are transferred to a central database for scheduling future activities and compliance tracking. For high-priority sites, inspection records and correspondence resulting from enforcement action are kept in hanging files organized by site. This allows staff to quickly see compliance history without the need for database access.

## 4.6 Private Industrial/Commercial Facilities

A. Employee Training

In-person training is given to personnel who carryout stormwater inspections on behalf of the city. New employees are trained within the first year of hire, while existing Water Quality Specialists are given the training in the first year of the permit and every other year thereafter. Training includes an overview of AZPDES permit types (CGP, MSGP, DMGP, and MS4), the requirements for stormwater discharges associated with industrial and commercial activity, how to properly complete the inspection form, and municipal ordinances related to stormwater management and the ERP.

B. Inventory

1. Water Quality is responsible for the creation and maintenance of the private industrial/commercial inventory of businesses subject to inspection. This inventory was developed at the beginning of permit year one using the following permit-required criteria:
    - Industrial facilities identified in 40 CFR 122.26(d)(2)(iv)(C)
    - Industrial facilities subject to MSGP
    - Facilities subject to 313 Title III Superfund Amendments and Reauthorization Act (SARA)
    - Other industrial or commercial businesses with the potential to contribute significant amount of pollutants to the city's MS4, including automotive repair services, automotive body, and car washes.

    The starting point for the inventory is a query performed by the Tax & License department. Water Quality uses other available tools including the USAGov database, EPA Enforcement and Compliance Online (ECHO), and its own pretreatment inspections database to identify additional users who may be subject to stormwater inspections.
2. The Permit requires Scottsdale Water to notify ADEQ of potential non-filers upon discovery. There are several industrial/commercial activities, identified by NAICS or SIC code, that are subject to the MSGP, or other general AZPDES permits. Such businesses are required to file a Notice of Intent (NOI) with ADEQ to discharge stormwater. Water Quality Specialists are trained to document known permit coverage during routine inspections on the inspection form and to report suspected non-filers to the Water Quality Supervisor.
    a. Non-filers should be reported to ADEQ monthly to AZPDES@azdeq.gov
3. Businesses on the inventory are prioritized for inspection based on their potential to release pollutants and history of non-compliance.

C. Inspections

1. Approximately 20% of the facilities identified in 4.6(B) must be inspected each year. Once the inventory is updated each year, facilities with no outdoor activities, no outdoor material storage, and no other potential for pollutants to be exposed to stormwater are considered to have no significant exposure of pollutants to stormwater and are removed from the inventory. Inspectors follow general inspection procedures; however, due to the variable nature of facility

operations, these procedures are provided more as a framework than a strict requirement. Inspections are typically conducted as follows:

a. Pre-Inspection Conference - meet with facility representative to explain purpose of the inspection and applicable City ordinance (if necessary), explain pollution control practices (purpose, proper operation, implementation), and describe the inspection plan.
b. Inspection – inspect all areas of the facility that have exposure to stormwater. Focus on areas with the following activities: processing/manufacturing, material/waste storage, loading/unloading, vehicle/equipment storage, and vehicle/equipment maintenance.
c. Document inspection findings on the Industrial Facility Inspection Form.
d. Closing conference – discuss good practices, identify non-compliances, and set follow-up expectations.
e. Inspection follow-up: Complete the photo log that accompanies the inspection form. If follow-up actions are needed, they are documented on the inspection form and implemented according to the ERP (Section 11.2). Inspection results are stored electronically by Water Quality and in accordance with the City's record retention schedule.

When conducting inspections, inspectors look for typical sources of stormwater pollution including:

- Discharges to the storm drainage system from commercial vehicle and equipment washing operations
- Evidence of chemicals and wastes discharged into the storm drainage system
- Discharge of wash-water from service bays into the storm drainage system
- Leakage from barrels and other outdoor containers with no secondary containment
- Discharges to the storm drainage system of materials such as concrete, paint, automotive fluids, etc.
- Improper handling of hazardous wastes that could lead to exposure to stormwater
- Exposure to rainfall and stormwater of oily, dirty items such as engine parts
- Open or leaking dumpsters
- Exposure of process activities and equipment to rainfall that is likely to result in pollutant runoff
- Open containers of liquids and other materials that are left outdoors
- Track-out of sediment and other materials from facilities onto roadways, and from indoor areas to outdoor areas
- Failure to properly manage spills or lack of spill kit

D. Compliance Activities and Enforcement

1. Several chapters of Scottsdale Revised Code (SRC) address issues that may affect stormwater quality, such as construction activities, development/planning, post-construction, and industrial activity. Enforcement involves escalating actions for violations of municipal stormwater requirements as are described in Article IV of the Stormwater Ordinance and include:
   - Inspections, monitoring, surveillance, and related compliance actions.

- Levels of enforcement (civil, injunctive relief, criminal, emergency, and notice of violation (NOV))
- Jurisdiction and procedure of city court
- Violations (defense and continuing liability)
- Civil and criminal penalties and restitution
- Abatement and emergency abatement

The Permit states that the escalated enforcement protocol shall focus on having the highest level of enforcement action resolved within one year of the initial inspection/violation.

The city's Enforcement Response Plan (ERP) identifies a series of escalating enforcement actions the city can implement in response to instances of non-compliance with the Stormwater Ordinance. The ERP applies to all non-municipal areas of the stormwater program and takes into consideration severity of the violation, repeat offender status, and willful negligence. The ERP includes timeframes for corrective actions and stipulates that at least 80% of cases handled under the ERP are satisfactorily resolved within one calendar year of the original enforcement action.

E. Recordkeeping

Water Quality is responsible for maintaining inspection records and documentation of enforcement activities. Such documents are stored electronically and in a central database and in accordance with the city's record retention policies.

## 4.7 Construction Sites

A. Employee Training

1. New employees with direct stormwater responsibilities are provided with job-specific training within the first year of hire. Existing employees receive refresher training every other year. For both private and capital projects, in-person training is provided to plan reviewers, Project Managers, Stormwater Engineers, and Drainage Inspectors, at a minimum. Topics include grading and drainage design standards, plan review procedures, municipal ordinances related to stormwater and construction, inspection procedures, and enforcement procedures.

B. Plan Review

1. For construction projects that will result in land disturbance of one (1) acre or more (including those less than one (1) acre, but are part of a larger common plan of development) that discharge to the MS4, at least 80% of plans for new development and redevelopment (such as grading and drainage plans) are reviewed by trained staff. The city requires building permits for all construction work including additions, patio covers, carport enclosures, retaining walls, and accessory buildings. Right-of-Way permits are required for any construction activity in a public right-of-way, including easements where the city was an interest.

The city requires that construction site operator or owner file a Notice of Intent (NOI) with ADEQ for coverage under the Construction General Permit (CGP) before submitting plans for city approval. Since ADEQ requires the site operator to submit a Stormwater Pollution Prevention Plan (SWPPP) when filing the NOI, the operator must also include the SWPPP (and proof of NOI) with the plans.

Plan Review staff are housed in the Community & Economic Development (CED) Division and are responsible for reviewing plans for all private construction projects applicable under CGP, including water, sewer, grading/drainage, landscape, and utility projects. Stormwater Management reviews private construction plans and permit applications for conformance with grading and drainage and stormwater requirements. As discussed in the City of Scottsdale Design Standards and Policy Manual (DS&PM), the city generally utilizes the design standards and methodologies of the Flood Control District of Maricopa County (FCDMC), as described in their Drainage Design Manuals that include Volume I Hydrology, Volume II Hydraulics, and Volume III Erosion. DS&PM Chapter 4 covers grading and drainage requirements, specifically, stormwater management, preliminary grading permits, and stormwater waivers. The most recent version (2018) of the DS&PM can be found at scottsdaleaz.gov/design/dspm.

C. Inventory
   1. Projects approved on/after July 1, 2021, that meet the criteria in 4.7(B)(1) must be included in a comprehensive inventory. CPM and CED are responsible for maintaining their own inventories of projects. The Water Quality Supervisor will request the inventory from CPM and CED on an annual basis for inclusion in the city's annual report.
   2. The Permit requires the city to notify ADEQ of potential non-filers when discovered. Sites that are subject to the CGP that did not file a timely NOI must be reported to ADEQ. This does not apply to sites with waivers or No Discharge Certificates. Because construction site inspections are performed by work groups outside of Scottsdale Water, notification to the Water Quality Supervisor must be made by CPM or CED staff when a suspected non-filer is discovered. The Water Quality Supervisor is responsible for formally notifying ADEQ.
      a. Non-filers should be reported to ADEQ monthly to AZPDES@azdeq.gov

D. Construction Site Prioritization
   1. Sites identified in 4.7(C)(1) must be prioritized for inspection based on the following minimum criteria:
      a. Sites with >5 acres of disturbed land at any one time
      b. Sites determined by city staff as significant sources of pollutants to the MS4

E. Inspections

1. Based on the determinations made in 4.7(D)(1), high priority sites must be inspected at least one time every three months and all other sites must be inspected at least one time every six months.

   The inspection process typically includes a review of SWPPP, comparison of SWPPP to on-site BMPs (e.g., trackout control, tire wash racks, silt fences, installation of straw bales and wattles, etc.), and the condition or effectiveness of the installed BMP.
2. When deficiencies are discovered during routine inspections, follow-up actions must be taken and be documented to bring the site into compliance. See section 4.7(G) for details.

F. Stormwater Control Measures
   1. The city requires that construction activities conform to Scottsdale's erosion and sediment control requirements and the approved construction plan to protect surface water quality. Such BMPs include:
      a. Maximum fill and cut slopes
      b. Maximum bench heights and widths
      c. Types of allowable fill materials
      d. Fill compaction and requirements
      e. Setbacks of fill slopes from property boundaries
      f. Treatment of fill slopes and other slopes to prevent erosion from stormwater runoff
      g. Requirements for maximum fill/cut slopes for drainage channels
      h. Terracing drainage requirements, including erosion controls
      i. Subsurface drainage controls for stability
      j. Drainage way erosion control provisions

G. Compliance Activities and Enforcement
   1. Several chapters of Scottsdale Revised Code (SRC) address issues that may affect stormwater quality, such as construction activities, development/planning, post-construction, and industrial activity. Enforcement involves escalating actions for violations of municipal stormwater requirements as are described in Article IV of the Stormwater Ordinance and include:
      - Inspections, monitoring, surveillance, and related compliance actions.
      - Levels of enforcement (civil, injunctive relief, criminal, emergency, and notice of violation
      - Jurisdiction and procedure of city court
      - Violations (defense and continuing liability)
      - Civil and criminal penalties and restitution
      - Abatement and emergency abatement

      The Permit states that the escalated enforcement protocol shall focus on having the highest level of enforcement action resolved within one year of the initial inspection/violation.

The city's Enforcement Response Plan (ERP) identifies a series of escalating enforcement actions the city can implement in response to instances of non-compliance with the Stormwater Ordinance. The ERP applies to all non-municipal areas of the stormwater program and takes into consideration severity of the violation, repeat offender status, and willful negligence. The ERP includes timeframes for corrective actions and stipulates that at least 80% of cases handled under the ERP are satisfactorily resolved within one calendar year of the original enforcement action.

## 4.8 Post-Construction

A. Employee Training
   1. New employees with direct stormwater responsibilities are provided with job-specific training within the first year of hire. Existing employees receive refresher training every other year. For both private and capital projects, in-person training is provided and includes the following topics:
      a. Site Plan Review staff:
         i. Grading and drainage design standards
         ii. Municipal ordinances related to stormwater and post-construction
         iii. Requirements for structural and non-structural management practices in new development and redevelopment
         iv. Post-construction stormwater controls
      b. Inspection Staff with Stormwater Responsibilities
         i. Municipal ordinances related to stormwater and post-construction
         ii. Requirements for structural stormwater controls practices in new development and redevelopment
         iii. Maintenance responsibilities through agreements and policies
         iv. Inspection procedures
         v. Enforcement procedures

B. Post-Construction Controls
   1. Construction projects identified in 4.7(C)(1) are subject to the city's post-construction controls program to control stormwater discharges from areas of new development and redevelopment. For private projects, Community & Economic Development (CED) is responsible for maintaining the inventory o f projects, tracking the date of the warranty inspection, and scheduling follow-up inspections. Capital Project Management (CPM) is responsible for public projects that meet the requirements of the post-construction control program
      a. The program requires that projects meeting the criteria listed in 4.7(B)(1) have controls in place to reduce stormwater pollution. Such controls include detention and retention basins and stormwater treatment devices. Control measures (CMs), or best management practices (BMPs), must be installed following the City of

Scottsdale Design Standards and Policies Manual (DSPM). The most recent version (2018) of the DS&PM can be found at scottsdaleaz.gov/design/dspm.

b. The plan review process incorporates an evaluation of post-construction controls and considers post-construction design standards such as open space preservation, on-site stormwater retention, and maintenance of pre-construction runoff rates and long-term maintenance controls.

   The city requires all new facilities to install and maintain on-site retention/detention for a 100-year, 2-hour storm event except those exempted by code or that meet another form of low impact development (LID) that achieves the intent of the requirement.

   In 2011 the city adopted the International Green Construction Code (IgCC) as the core component of the city's voluntary Commercial Green Building Program. This makes it easier for developers of commercial and multi-family housing to be green certified. By integrating the voluntary code into the city's plan review and inspection process, green certification is streamlined and a Green Certificate of Occupancy I issued following the final building inspection. Stormwater management requirements include features such as stormwater infiltration, evapotranspiration, and rainwater harvesting and runoff reuse to reduce the amount of runoff that would occur from development.

   In 2005 the city mandated the Leadership in Energy and Environmental Design (LEED) Program Gold Certification level as a requirement for all new, occupied city buildings, of any size. Additionally, all future renovations and non-occupied city buildings are designed, contracted and built to include as many principles of the LEED Program and the city's Green Building Program where feasible. LEED encourages stormwater control features such as on-site retention and pervious pavement to obtain points toward certification.

   More information on the IgCC and LEED Programs can be found at www.scottsdaleaz.gov/greenbuilding.

2. Water Quality is responsible for evaluating three areas contributing to SWQS exceedances on which to perform a retrofit feasibility assessment. This assessment includes locations that are representative of commercial, residential, and industrial land uses and is to be submitted to ADEQ with the first-year annual report in September 2022. The Fact Sheet states that ADEQ will respond to the city's proposal within 30 days of submittal.
3. After receiving ADEQ approval of the three sites for retrofit study, Water Quality will develop a feasibility assessment to retrofit existing developed sites that discharge to the MS4 that are impacting water quality in WOTUS or PSWL. The retrofit feasibility assessment is to be developed in the fourth year of the Permit and must be submitted with the city's fourth year annual report. See the Permit for details on what the feasibility assessment should include.

C. Compliance Activities and Enforcement
   1. CED and CPM are responsible for developing and updating the inventories for private and public projects, respectively. Responsibility for the development of the post-construction control maintenance and tracking program is also with these Divisions.
   2. Within one year of construction completion, the city must complete the warranty inspection to determine compliance with the post-construction stormwater controls. The Permit requires that at least 90% of sites on the inventory be inspected.
      a. Stormwater control features/BMPs constructed must meet the standards in section 4.8(B)(1)(a). Achievement of 80% of the BMP's design standard for detention, retention or treatment shall constitute compliance.
   3. The CED and CPM Divisions are responsible for documenting instances of noncompliance with post-construction stormwater BMPs and the follow-up actions taken to achieve compliance. Under Chapter 37 Stormwater and Floodplain Management of SRC (Sec. 37-48), the developer shall provide the city as-built plans certified by an engineer demonstrating that the stormwater storage facility was constructed, and volume requirements were met in conformance with approved plans. Maintenance responsibility for post-construction BMPs can be assigned and is enforceable.

# 5.0 Monitoring Requirements

## 5.1 Monitoring and Assessment

A. Analytical results obtained from stormwater monitoring shall be used, at a minimum, for the following purposes:
   1. To characterize stormwater quality and identify stormwater pollutants
   2. To detect and eliminate illicit discharges
   3. To evaluate the overall effectiveness of control measures and the SWMP in reducing the discharge of pollutants to the maximum extent practicable.

## 5.2 Wet Weather Monitoring

A. Qualifying Storm Event

   A qualifying storm event is defined as rainfall in the amount of 0.1 inches or more and a resulting discharge. Stormwater samples cannot be collected within 72 hours of a qualifying storm event. One set of samples must be collected from each dedicated stormwater site during each wet weather season.

B. Storm Event Records
   Qualifying storm events are tracked using rain gauge data from the five dedicated stormwater sampling sites and recorded by the Water Quality Supervisor. Rainfall data from qualifying storms

must be documented from the beginning of the season until all samples have been collected at each site.

1. Storm event data must be included with the Discharge Monitoring Report (DMR), which includes the following information:
    a. Date of each qualifying storm event
    b. Amount of rainfall (in inches) in the drainage area for each stormwater monitoring location identified in section 5.2(D)
    c. Indication of whether or not a stormwater sample was collected, and if not, indicate the applicable No Discharge (NODI) code in the myDEQ submittal that prevented samples from being collected

C. Stormwater Sampling

1. Samples must be collected at each of the five dedicated stormwater sampling stations from the first qualifying storm event of each wet season, and subsequent qualifying storm events, as necessary, to complete the monitoring requirements outlined in Section 5.2(F). Wet seasons, for the purpose of sampling, are defined as follows:

| | |
|---|---|
| Summer wet season | June 1 – October 31 |
| Winter wet season | November 1 – May 31 |

The composite sample shall be conducted over the first three hours of the discharge, or for the entire discharge if less than three hours. The grab sampling procedure is designed so that the "first flush" (first 30 minutes of storm event discharge) of a qualifying storm event can be obtained. This is not always practicable, especially when staff is called in for sampling outside of normal business hours. Water Quality is responsible for collecting wet weather samples and there are two SOPs that detail the process: Wet Weather Stormwater Sampling Event (DM# 14647609) and Stormwater On Duty Procedures (DM# 15547657).

In addition to the monitoring requirements outlined in 5.3(C) Table I, during Permit Year 4 a longer list of parameters must be collected and analyzed during each wet season. The analytical results obtained from the Permit Year 4 sampling event will be used by ADEQ to characterize the discharge and determine sampling requirements for the next issued permit.

D. Monitoring Locations

Scottdale has five dedicated stormwater sampling stations, as required by the Permit. These five sites, listed in Table 5-1: Stormwater Monitoring Locations, represent each land use classification (residential, commercial, and industrial) and are positioned strategically throughout the city.

### Table 5-1: Stormwater Monitoring Locations

| Station ID | Description | Latitude and Longitude | Drainage Basin Classification/Size (acres) | Receiving Water |
|---|---|---|---|---|

| | | | | |
|---|---|---|---|---|
| **080710 (MCKRD)** | NWC McKellips Rd/Hayden Rd | 33º 27' 06" N 111º 54' 46" W | Commercial & Residential / 12.4 | Indian Bend Wash |
| **080610 (PIERCE)** | NWC Pierce St/Hayden Rd | 33º 27' 16" N 111º 54' 42" W | Light Industrial / 6.4 | Indian Bend Wash |
| **130570 (CAMEL)** | SEC Camelback Rd/Hayden Rd | 33º 30' 07" N 111º 54' 26" W | Commercial & Residential / 262 | Indian Bend Wash |
| **130820 (CHAPRD)** | SEC Coolidge St./79$^{Th}$ St | 33º 30' 21" N 111º 54' 34" W | Residential / 60 | Indian Bend Wash |
| **250940 (TBIRD)** | SEC Thunderbird Rd/73$^{rd}$ St | 33º 36' 40" N 111º 55' 22" W | Industrial & Airpark / 1,094 | Airport Wash |

E. Sampling Waiver

Sampling of a qualifying storm event is not required during adverse climatic conditions. Adverse climatic conditions which prohibit the collection of samples include weather conditions that create dangerous conditions for personnel (such as local flooding, high winds, electrical storms, etc.). Information on the conditions that prevented sampling shall be reported to ADEQ on the DMR. Subsequent storm events shall be monitored and if a qualifying storm event occurs, samples must be collected.

F. Stormwater Monitoring Requirements

Samples should be collected according to the guidance in Table 5-2: Analytical Wet Weather Monitoring Permit Years 1-3 & 5. Additional parameters may be monitored as determined by Scottsdale Water. All parameters monitored must be reported to ADEQ using the DMR form.

## Table 5-2: Analytical Wet Weather Monitoring Permit Years 1-3 & 5

| Parameter[1] | Units | Monitoring Frequency | Monitoring Type[2] |
|---|---|---|---|
| **Conventional Parameters** | | | |
| Average Flow Rate | --- | 1x/sampling event | --- |
| pH | S.U. | 1x/ wet season | Discrete |
| Temperature | °C | 1x/ wet season | Discrete |
| Hardness | mg/L | 1x/ wet season | Flow-proportional composite |
| Total Suspended Solids(TSS) | mg/L | 1x/ wet season | Flow-proportional composite |
| **Microbiological** | | | |
| Escherichia coli(E. coli) | cfu/100 mL or MPN | 1x/ wet season | Discrete |
| **Metals[3]** | | | |
| Arsenic | µg/L | 1x/ wet season | Flow-proportional composite |
| Chromium, Total | µg/L | 1x/ wet season | Flow-proportional composite |
| Copper | µg/L | 1x/ wet season | Flow-proportional composite |
| Lead | µg/L | 1x/ wet season | Flow-proportional composite |
| Selenium | µg/L | 1x/ wet season | Flow-proportional composite |
| Zinc | µg/L | 1x/ wet season | Flow-proportional composite |
| **Nutrients** | | | |
| Nitrate plus Nitrite as N | mg/L | 1x/ wet season | Flow-proportional composite |
| Ammonia as N | mg/L | 1x/ wet season | Flow-proportional composite |
| Total Kjeldahl Nitrogen(TKN) as N | mg/L | 1x/ wet season | Flow-proportional composite |
| Total Phosphorus | mg/L | 1x/ wet season | Flow-proportional composite |
| **Organic Toxic Pollutants** | | | |
| Total Oil and Grease | mg/L | 1x/ wet season | Discrete |

Footnotes:

1. The Permittee shall include any additional parameters in stormwater sampling as specifiedby Section 3.0 ARIZONA SURFACE WATER QUALITY STANDARDS (SWQS).
2. Discrete samples shall be collected manually. Flow-proportional composite samples shall be collected for all other parameters specified. A flow-proportional composite sample may be collected with a continuous sampler or as a combination of multiple discrete samples (aliquots). Only one (1) analysis of the composite of aliquots is required. Regardless of thesample type, the Permittee shall attempt to include the "first flush" (first 30 minutes of stormwater discharge) of a qualifying storm event whenever possible to do so.
3. When analyzing for metals, the Permittee shall assume a 1:1 total to dissolved ratio for purposes of reporting and comparison with SWQS. Alternatively, the Permittee may test for dissolved metals, if appropriate field filtering is completed. Hardness data must also becollected and used to calculate the corresponding SWQS for certain metals as indicated by SWQS rules

Table 5-3: Analytical Wet Weather Monitoring Permit Year 4

| Parameter | Units | Monitoring Frequency | Monitoring Type |
|---|---|---|---|
| **Metals** | | | |
| Antimony | µg/L | 1x/wet season | Flow-proportional composite |
| Barium | µg/L | 1x/wet season | Flow-proportional composite |
| Beryllium | µg/L | 1x/wet season | Flow-proportional composite |
| Cadmium | µg/L | 1x/wet season | Flow-proportional composite |
| Mercury | µg/L | 1x/wet season | Flow-proportional composite |
| Nickel | µg/L | 1x/wet season | Flow-proportional composite |
| Silver | µg/L | 1x/wet season | Flow-proportional composite |
| Thallium | µg/L | 1x/wet season | Flow-proportional composite |
| **Inorganics** | | | |
| Cyanide | µg/L | 1x/wet season | Discrete |
| **Volatile Organic Compounds (VOCs)** | | | |
| Acrolein | µg/L | 1x/wet season | Discrete |
| Acrylonitrile | µg/L | 1x/wet season | Discrete |
| Benzene | µg/L | 1x/wet season | Discrete |
| Carbon tetrachloride | µg/L | 1x/wet season | Discrete |
| Chlorobenzene | µg/L | 1x/wet season | Discrete |
| Dibromochloromethane | µg/L | 1x/wet season | Discrete |
| Chloroethane | µg/L | 1x/wet season | Discrete |
| 2-chloroethylvinyl ether | µg/L | 1x/wet season | Discrete |
| Chloroform | µg/L | 1x/wet season | Discrete |
| Bromodichloromethane | µg/L | 1x/wet season | Discrete |
| 1,2-dichlorobenzene | µg/L | 1x/wet season | Discrete |
| 1,3-dichlorobenzene | µg/L | 1x/wet season | Discrete |
| 1,4-dichlorobenzene | µg/L | 1x/wet season | Discrete |
| 1,1-dichloroethane | µg/L | 1x/wet season | Discrete |
| 1,2-dichloroethane | µg/L | 1x/wet season | Discrete |

| | | | |
|---|---|---|---|
| 1,3-dichloropropylene | µg/L | 1x/wet season | Discrete |
| Ethylbenzene | µg/L | 1x/wet season | Discrete |
| Bromomethane | µg/L | 1x/wet season | Discrete |
| Chloromethane | µg/L | 1x/wet season | Discrete |
| Methylene chloride | µg/L | 1x/wet season | Discrete |
| 1,1,2,2-tetrachloroethane | µg/L | 1x/wet season | Discrete |
| Tetrachloroethylene | µg/L | 1x/wet season | Discrete |
| Toluene | µg/L | 1x/wet season | Discrete |
| 1,2-trans- dichloroethylene | µg/L | 1x/wet season | Discrete |
| 1,1,1-trichloroethane | µg/L | 1x/wet season | Discrete |
| 1,1,2-trichloroethane | µg/L | 1x/wet season | Discrete |
| Trichloroethylene | µg/L | 1x/wet season | Discrete |
| Vinyl chloride | µg/L | 1x/wet season | Discrete |
| Xylene | µg/L | 1x/wet season | Discrete |
| **Semi-VOCs - Acid Extractable** | | | |
| 2-chlorophenol | µg/L | 1x/wet season | Flow-proportional composite |
| 2,4-dichlorophenol | µg/L | 1x/wet season | Flow-proportional composite |
| 2,4-dimethylphenol | µg/L | 1x/wet season | Flow-proportional composite |
| 4,6-dinitro-o-cresol | µg/L | 1x/wet season | Flow-proportional composite |
| 2,4-dinitrophenol | µg/L | 1x/wet season | Flow-proportional composite |
| 2-nitrophenol | µg/L | 1x/wet season | Flow-proportional composite |
| 4-nitrophenol | µg/L | 1x/wet season | Flow-proportional composite |
| p-chloro-m-cresol | µg/L | 1x/wet season | Flow-proportional composite |
| Pentachlorophenol | µg/L | 1x/wet season | Flow-proportional composite |
| Phenol | µg/L | 1x/wet season | Flow-proportional composite |
| 2,4,6-trichlorophenol | µg/L | 1x/wet season | Flow-proportional composite |
| **Semi-VOCs – Base/Neutrals** | | | |
| Acenaphthene | µg/L | 1x/wet season | Flow-proportional composite |
| Acenaphthylene | µg/L | 1x/wet season | Flow-proportional composite |

| | | | |
|---|---|---|---|
| Anthracene | µg/L | 1x/wet season | Flow-proportional composite |
| Benz(a)anthracene | µg/L | 1x/wet season | Flow-proportional composite |
| Benzo(a)pyrene | µg/L | 1x/wet season | Flow-proportional composite |
| Benzo(b)fluoranthene | µg/L | 1x/wet season | Flow-proportional composite |
| Benzo(g,h,i)perylene | µg/L | 1x/wet season | Flow-proportional composite |
| Benzo(k)fluoranthene | µg/L | 1x/wet season | Flow-proportional composite |
| Chrysene | µg/L | 1x/wet season | Flow-proportional composite |
| Dibenzo(a,h)anthracene | µg/L | 1x/wet season | Flow-proportional composite |
| 3,3'-dichlorobenzidine | µg/L | 1x/wet season | Flow-proportional composite |
| Diethyl phthalate | µg/L | 1x/wet season | Flow-proportional composite |
| Dimethyl phthalate | µg/L | 1x/wet season | Flow-proportional composite |
| Di-n-butyl phthalate | µg/L | 1x/wet season | Flow-proportional composite |
| 2,4-dinitrotoluene | µg/L | 1x/wet season | Flow-proportional composite |
| 2,6-dinitrotoluene | µg/L | 1x/wet season | Flow-proportional composite |
| Di-n-octyl phthalate | µg/L | 1x/wet season | Flow-proportional composite |
| 1,2-diphenylhydrazine(as azobenzene) | µg/L | 1x/wet season | Flow-proportional composite |
| Fluoranthene | µg/L | 1x/wet season | Flow-proportional composite |
| Fluorene | µg/L | 1x/wet season | Flow-proportional composite |
| Hexachlorobenzene | µg/L | 1x/wet season | Flow-proportional composite |
| Hexachlorobutadiene | µg/L | 1x/wet season | Flow-proportional composite |
| Hexachlorocyclopentadiene | µg/L | 1x/wet season | Flow-proportional composite |
| Hexachloroethane | µg/L | 1x/wet season | Flow-proportional composite |
| Indeno(1,2,3-cd)pyrene | µg/L | 1x/wet season | Flow-proportional composite |
| Isophorone | µg/L | 1x/wet season | Flow-proportional composite |
| Naphthalene | µg/L | 1x/wet season | Flow-proportional composite |
| Nitrobenzene | µg/L | 1x/wet season | Flow-proportional composite |
| N-nitrosodimethylamine | µg/L | 1x/wet season | Flow-proportional composite |
| N-nitrosodi-n-propylamine | µg/L | 1x/wet season | Flow-proportional composite |
| N-nitrosodiphenylamine | µg/L | 1x/wet season | Flow-proportional composite |

| | | | |
|---|---|---|---|
| Phenanthrene | µg/L | 1x/wet season | Flow-proportional composite |
| Pyrene | µg/L | 1x/wet season | Flow-proportional composite |
| 1,2,4-trichlorobenzene | µg/L | 1x/wet season | Flow-proportional composite |
| **PCB / Pesticides** | | | |
| Aldrin | µg/L | 1x/wet season | Flow-proportional composite |
| Alpha-BHC | µg/L | 1x/wet season | Flow-proportional composite |
| Beta-BHC | µg/L | 1x/wet season | Flow-proportional composite |
| Gamma-BHC | µg/L | 1x/wet season | Flow-proportional composite |
| Delta-BHC | µg/L | 1x/wet season | Flow-proportional composite |
| Chlordane | µg/L | 1x/wet season | Flow-proportional composite |
| 4,4'-DDT | µg/L | 1x/wet season | Flow-proportional composite |
| 4,4'-DDE | µg/L | 1x/wet season | Flow-proportional composite |
| 4,4'-DDD | µg/L | 1x/wet season | Flow-proportional composite |
| Dieldrin | µg/L | 1x/wet season | Flow-proportional composite |
| Alpha-endosulfan | µg/L | 1x/wet season | Flow-proportional composite |
| Beta-endosulfan | µg/L | 1x/wet season | Flow-proportional composite |
| Endosulfan sulfate | µg/L | 1x/wet season | Flow-proportional composite |
| Endrin | µg/L | 1x/wet season | Flow-proportional composite |
| Endrin aldehyde | µg/L | 1x/wet season | Flow-proportional composite |
| Heptachlor | µg/L | 1x/wet season | Flow-proportional composite |
| Heptachlor epoxide | µg/L | 1x/wet season | Flow-proportional composite |
| PCB-1242 | µg/L | 1x/wet season | Flow-proportional composite |
| PCB-1254 | µg/L | 1x/wet season | Flow-proportional composite |
| PCB-1221 | µg/L | 1x/wet season | Flow-proportional composite |
| PCB-1232 | µg/L | 1x/wet season | Flow-proportional composite |
| PCB-1248 | µg/L | 1x/wet season | Flow-proportional composite |
| PCB-1260 | µg/L | 1x/wet season | Flow-proportional composite |
| PCB-1016 | µg/L | 1x/wet season | Flow-proportional composite |
| Toxaphene | µg/L | 1x/wet season | Flow-proportional composite |

Footnotes:

1. The Permittee shall include any additional parameters in stormwater sampling as specifiedby Section 3.0 ARIZONA SURFACE WATER QUALITY STANDARDS (SWQS).
2. Discrete samples shall be collected manually. Flow-proportional composite samples shall be collected for all other parameters specified. A flow-proportional composite sample may be collected with a continuous sampler or as a combination of multiple discrete samples (aliquots). Only one (1) analysis of the composite of aliquots is required. Regardless of thesample type, the Permittee shall attempt to include the “first flush” (first 30 minutes of stormwater discharge) of a qualifying storm event whenever possible to do so.
3. When analyzing for metals, the Permittee shall assume a 1:1 total to dissolved ratio for purposes of reporting and comparison with SWQS. Alternatively, the Permittee may test for dissolved metals, if appropriate field filtering is completed. Hardness data must also becollected and used to calculate the corresponding SWQS for certain metals as indicated by SWQS rules

## 5.3 Sample Collection and Analysis

See Scottsdale Water’s Stormwater Quality Assurance Manual (DM# 12858081) for all information required in Permit section 5.3.